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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,845	01/26/2006	Takaaki Kishigami	L9289.06109	7753
52989	7590	05/26/2009		
Dickinson Wright PLLC James E. Ledbetter, Esq. International Square 1875 Eye Street, N.W., Suite 1200 Washington, DC 20006			EXAMINER ZEWDU, MELESS NMN	
			ART UNIT 2617	PAPER NUMBER
			MAIL DATE 05/26/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/565,845	Applicant(s) KISHIGAMI ET AL.	
	Examiner Meless N. Zewdu	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 and 31-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-28 is/are allowed.
- 6) ☒ Claim(s) 31-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This action is in response to the communication filed on 4/13/09.
2. Claims 29 and 30 have been canceled.
3. Claims 1-28 and 31-35 are pending in this action.

Claim Rejections - 35 USC § 101

Claims 31, 34 and 35 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. According to the Memorandum issued on May 15, 2008, by John J. Love, the Deputy Commissioner for Patent Examination Policy, a § 101 process/method claim must (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or material) to a different state or thing. Claims 31, 34 and 35 are directed to a non-statutory subject matter because they do not meet these criteria/requirements.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sampath et al. (Sampath) (US 6,922,445 B1) in view of Li et al. (LI) (US 6,947,748 B2).

As per claim 32: a radio communication apparatus (see figs. 1 and 2) comprising:

a setting section (see modulation/coding and table) that sets, for each of the plurality of divided bands, a respective transmission format including a spatial multiplexing number used to carry out a radio transmission (see col. 3, lines 14-17; col. 6, line 45-col. 7, line 26). But, Sampath does not explicitly teach about a divided bands composite section that composes a plurality of divided bands, each divided band including a plurality of sub-carriers in a communication band for multi-carrier transmission. However, in the same field of endeavor, Li teaches about sub-carrier allocation wherein an OFDM wide bandwidth is divided into multiple narrow band sub-carriers (clusters), which are arranged to be orthogonal with each other (see col. 1, lines 13-18) and wherein a cluster (a divided band) can contain consecutive or disjoint sub-carriers (see col. 5, lines 9-19). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Sampath with that of Li for the advantage of adaptively allocating sub-carriers so as to mitigate the effect of inter-cell interference (see col. 1, lines 55-63).

As per claim 33: Sampath teaches about a radio communication apparatus, wherein the transmission format further includes a modulation scheme and a coding rate (see col. 3, lines 14-26; col. 6, line 45-col. 7, line 26).

As per claim 34: the features of claim 34 are similar to the features of claim 32, except

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the feature -- composing a plurality of divided bands, each divided band including a plurality of sub-carriers (figs. 3, 4 and 13; col. 1, lines 13-18; col. 5, lines 9-19).

Therefore, claim 34 is rejected on the same ground and motivation as claim 1.

As per claim 35: Sampath teaches about a radio communication method, wherein the transmission format further includes a modulation scheme and a coding rate (see col. 3, lines 14-26; col. 6, line 45-col. 7, line 26).

Allowable Subject Matter

Claims 1-28 are allowed.

The following is an examiner's statement of reasons for allowance: the reason for allowance is as provided by applicant in the EMARKS section of the response filed on 4/6/09.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments filed on 4/13/09 have been fully considered but they are not persuasive. Applicant states independent claims 32 and 34, similarly recites the above mentioned subject matter (the subject matter of claim 1) distinguishing apparatus claim 1 from the applied references. However, examiner submits that the features of claims 32 and 34 are different from and broader than claim 1. Specifically, claims 32 and 34 do not include the feature of claim 1 that reads as --- a detection section that detects spatial adaptability to a spatial multiplexing, a respective transmission format including a spatial multiplexing number and transmission based on adaptability based on the detected for said each divided band. Thus, the argument provided regarding claim 1 does not apply to claims 32 and 34. In other words, the argument regarding claims 32 and 34 is based on a feature that was not claimed as being argued.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meless N. Zewdu whose telephone number is (571) 272-7873. The examiner can normally be reached on 8:30 am to 5:00 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bost Dwayne D can be reached on (571) 272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry of a general nature relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

/Meless N Zewdu/

Primary Examiner, Art Unit 2617

5/26/2009